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KNOTTING MATTERS

The Magazine of the International Guild of Knot Tyers

INTERNATIONAL GUILD OF KNOT TYERS

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KNOTTING MATTERS

THE MAGAZINE OF THE
INTERNATIONAL GUILD OF KNOT TYERS

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The editors welcome the submission of letters, articles, photographs and sketches for publication. Correspondence may be by e-mail **knottingmatters@igkt.net** but more extensive items, such as articles for publication, as well as any pictures, which should be of good quality, need to be sent as attachments. All submissions must include their author's name and e-mail or postal address.

If events are to be publicised in *Knotting Matters,* note the months of publication: March, June, September and December. Although the deadline for the next issue is given at the foot of the Contents page, please note that the editors begin putting the magazine together at least three weeks earlier.

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KNOTTING MATTERS

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PLEASE NOTE: LETTERS & ARTICLES FOR THE MARCH 2021 *KNOTTING MATTERS* MUST BE RECEIVED BY 10th FEBRUARY

FRONT COVER: CHEST BECKETS BY BOB DOLLAR

EDITORIAL

As we stand now it is difficult or even impossible to imagine what the world will look like when this edition drops though your door. We can but remain optimistic and trust that progress will be made in combating this scourge that is afflicting us. The current news about vaccines is encouraging. One thing is constant though and it unites us all in the Guild, this magazine. It is extremely heartening to have people say how much they look forward to its arrival, the pleasure and interest they derive from it. So in the face of adversity, to paraphrase a well-known expression, 'Read *KM* and Carry On'. What is really great to see, and lock-down may have assisted, is that we are hearing from new correspondents from different geographical locations, and long may that continue. Incidentally, you may find terms or acronyms that are unfamiliar. If so, please drop us a line.

There are a few pieces from the Publications Group (pp27-29). Since they are reviewing Scott's *Cruciform Turk's Heads*, it is a nice touch to include a short bio of Harold as many newer members may not have known him. We also draw your attention to the information about the Guild's Knot Charts (p29). We could do with some help. Also, the issue regarding copyright seems important.

The picture on the front cover demonstrates that Past-Presidents don't just fade away, they carry on knotting, regardless. The back cover picture could well be an exhibit in a modern art gallery, but its elegant form belies its functional origin (pp35-37). Industry meeting art? We think so.

It's never too early to submit letters and articles. Note that the next edition is No 150, and it's first come-first served for the distinction of being published in a landmark issue.

Geoffrey Budworth's article on 'Golden Ratio Turks Heads' (p45) begins with a classification of THs: square, wide or long and narrow. We are aware that some may not agree with these descriptors, and we welcome your views.

It seems such a long time since Weymouth, sun, sea, sand and not a mask in sight. Things went from nice to nasty so fast, with a cancelled AGM in 2020, and a 'virtual' AGM decided for March 2021 (see Trustees' Notice p22). Let's hope, nevertheless, that 2021 sees us getting our meetings and get-togethers back to normal, or as near as we can.

Season's Greetings from all of us.
Gordon

LETTERS TO THE EDITOR

Gudday Maurice,

I consider the 'How to make' guides enclosed with each *KM*, icing on the cake, and Bill Marshall's 'Poppy Brooch' was no exception.

As an alternative to the red thread that can be used for securing some parts, may I suggest the fine monofilament nylon thread used for 'invisible mending'.

I use this material for some of my constructions, eg attaching elephants' ears, as it literally vanishes into the construction and the ends can be sealed in place by judicious use of a flame. Bill's plan to raise funds for the Poppy Appeal is praiseworthy and I hope he is monumentally successful.

Frank Brown

Dear Maurice,

Re *KM* 148, I have a couple of comments.

1. Ashley wrote "A different way either of tying or of applying a form generally constitutes a second knot" (*ABOK* pp 9, 10, 18). It is one of several principles that he offered but did not follow consistently throughout his masterwork. Unfortunately he died too young to leave us any corrected version.

Most practical knot tyers today probably consider that one finished structure is one knot. If the same passage of cord, with different dressings, yields structures that have different useful properties (such as different security in their intended uses) these structures are generally regarded as different finished knots (though by some criteria they are topologically equivalent). *ABOK* #488 vs #1434 provides an interesting example: the former dressing is rarely shown for a double Sheet Bend, but its structure is more secure in some tests (Seaworthy, https://igkt.net/sm/index.php?topic=4937.0).

2. The 'Lockdown bowline' is *ABOK* #1033 (Carrick loop). *and also*
3. It is terrible timing, but I have had to part ways with the company I paid for 11 years to provide internet access, and have changed my e-mail address. If anyone is still interested in the bowline name analysis (*KM* 148). It can now be found at https://scithings.id.au/Knots/ and can be downloaded directly from https://scithings.id.au/Bowline_Name.pdf.

All the best,

Robert Birch

Dear Maurice:

There is a knot in Graumont and Hensel's *Encyclopedia* that has bothered me for some time. So I decided to investigate it. It is described as a "Triple-Loop Bowline in the Bight" (*G&H* 105/374). The description goes on to say that although it seems to present difficulty, tying may easily be accomplished by reference to the illustration. This is fatuous. The illustration gives no hint as to the complications that are involved in its construction.

Fortunately, any single-strand knot may be tied in the end (simply because it may be untied in the end). I therefore mentally deconstructed the knot, then tied it in the end. This process elicited the fact that it is a fraud, as will be shown. The photograph shows the completed knot on the left of the picture, and its reverse side on the right. This reveals that it is not a three loop bowline at all, since one loop makes an additional turn, before completion, without having been through the processes that the other two loops had made. There is also an ugly secret.

The knot may be tied in the bight but the process is unconventional, messy and also reveals the fraudulent nature of the knot. The second photograph shows the process. Commencing with an overhand slip-knot with a long loop, as in the upper part of the photograph, the loop is then given a half twist towards the tyer, then, keeping the strands in strict order, a complete anti-clockwise round turn is made, with the bight being tucked under its own strands, but not under the third strand. After being tucked, the bight is then brought over, then round the rear, as is done with the Bowline in the Bight knot. At this point, the structure will bear a strong resemblance to a dog's breakfast and will need considerable fairing.

Now for the ugly secret. I believe that this knot is someone's attempt to 'improve' the Bowline on the Bight knot, since the easiest way to tie it, is to make the Bowline on the Bight, withdraw one end, make an additional loop, and finally return the end to its original position. Thus it is a hybrid knot.

I'm rather sorry that I spent so much time on a worthless knot, but I suppose that it staved off dementia by a couple of years!

John Heselton

PS I believe that Owen Nuttall's Lockdown Bowline is *ABOK* #1443.

Dear Maurice,

Since *KM* 148 showed a wonderful sculpture of a Chinese button knot, I thought that members might be interested in another sculpture showing knots, called 'Release from Deception' by Francesco Quierolo (1704-1762).

The sculpture which is just over six feet tall and carved from a single block of marble, shows a fisherman being released from a net by a small angel. It is on display in the Museo de Cappella Sansevero in Naples and took seven years to complete.

The detail of the net is considered to be one of the greatest achievements of the age and the photos show the attention to detail in each knot of the net.

Richard Hopkins

Dear Maurice,

The armchair knotter

I made this jig to produce a stable base on which to learn and practise the art of knotting. When secured to a board that spans the arms of your favourite chair it means that you no longer have to balance cord, sticks, fids, scissors, knives etc on your lap, nor be expelled from the living room to the shed bench. It measures about 30 by 25cm. and is made from 18mm MDF and hazel rods.

The versatile design means that hitches can be tied on the horizontal and vertical bars. Changing the angle at which a hitch is tied makes it more accessible in the field as whatever you want to hitch is rarely easy to get at. The free vertical bar is available for slipping a Turks Head from the hand so it can be tightened then doubled etc. The hook and eyes can be used to develop skills in tying Guyline, Prusik, Poldo tackle etc in small stuff.

The jig is simple to make and could be modified for other knotting activities such as casting on mesh for nets. I have found it a useful addition to the tool kit.

Robert Richards

Dear Maurice,

Help! Lost photo. At the inaugural meeting of the IGKT on Saturday 17th April 1982, aboard the RRS Discovery, a photo was taken of the late Desmond Mandeville showing me a display board of his knotting research into mapping the family of bends. Sometime in the 1990s, I passed this snapshot to one or other of the Guild's several past-editors of *Knotting Matters* and, alas, it hasn't been seen since. If anyone can lay hands on it, I'd like it back, please, to enliven an essay I'm writing on Desmond's singular work.

In the 18 years of his correspondence with other Guild members, a letter dated 22nd December 1992 mentions two colour photos of him and me being sent to Jeff Wyatt (when he was IGKT archivist & librarian). Might this help the search?

Geoffrey Budworth

Dear Maurice,
It is really time that we ALL adopt a system of putting multiple e-mail addresses in the BCC (Blind Copy) box.
You can see how visible the addresses are when you receive an e-mail sent to one member and then copied (CC) to a group of individual members.
There are programmes and people out there who look for these e-mails and harvest them for scamming purposes. There will be, I am sure, some members who may have scam software installed on their computers without their knowledge. This software looks for e-mail addresses and sends them back to the scammer.
Since receiving an original message regarding a September meeting I have been inundated with bogus e-mails purporting to come from members. They all have a protected Word document attached which, if activated, would wreak havoc on anyone's computer. The names on the documents are 'Form', 'Invoice', 'Covid19plan' etc.
Please, please, please ensure that when sending out an e-mail to multiple recipients you put them in BCC. This perhaps needs to be noted in *KM* as a warning notice to all members now that we are all using e-mails more frequently.
Regards, Brian Taylor

(Editors' Note: Brian's letter has been edited to remove the names contained in the example he submitted to illustrate his very important point.)

Dear Maurice,
Several years ago I borrowed a book of knots by a Swedish author Kaj Lund, but it was a German translation *fancywork: Spielereien mit Tauwerk*, Delius Klasing 1978. I only copied the two pages that interested me: An *Adventskranze* (Advent crown or wreath) and *Weinachtsbaum* (Christmas tree).
My question is: Were these objects common on board ship at Christmas a long time ago? Does anyone know anything about their history? It would be very interesting to hear.
I really like the Advent crown and now that I have the time, I couldn't help myself, I had to give it a go. This is how I did it:
For the base, I used hitching in two patterns.
Pole - (a toothpick) is covered in macramé

Between base and pole - Carrick bend
Covering the wire ring - Solomon bar
Supporting the ring - Bannister bars
Candlestick holder - 3-Lead Turks Head
Top knot 4-Lead Turks Head

The yarn is cotton 30/6, 0.2 mm and the pole is 6cm high. I used a soft board, pins and a small hook (I have several) adapted for the yarn.
I didn't know the English names of the knots so I tried to find them in *Ashley Book of Knots*, I hope I am right. I will be so grateful if anyone can help with my question.
Thanks for *Knotting Matters*. It is really interesting. I enjoy it every time!

Take care!
Ewa Thormahlen Malmo, Sweden
ewathormahlen@gmail.com

(Editors' note: The book has the length of the pole at 50-60cm, and you reduced yours to 6cm. Ewa, that's a triumph of miniaturisation. Well done!)

Dear Maurice,
It's been brought to my attention again, by my son, that I should send you a note about the pullouts. The pullouts are very handy when I teach someone new to do something fancy. They always ask for another project. The pullouts give them step-by-step instructions and fill the bill. Of course, I encourage them to join the IGKT so they can get their own *KM*.
Keep up the good work and keep the pullouts.
Jim Wolf

Dear Maurice,
In speaking with my father today, I learned that he had sent you an e-mail expressing that he enjoyed the inserts in *KM*. He mentioned that he thought that he may have caused some confusion. My dad and I share the same name, James. We both also go by Jim. Dad lives in Indiana and has been an IGKT member several years longer. I joined the Guild when I was in the US Navy and was posted to RNAS Yeovilton in Somerset, UK from 2004 to 2007.

For what it is worth, I believe that you and the rest of your team do a bang-up job each quarter with *KM*.

Yours aye,

Jim Wolf Panama City, Florida

Hi Jim2 and son,

Thanks for clarifying that! So Jim is your son also a 'Jim'? What puzzles me is that I usually click 'Reply' to e-mails, and so it should have gone to you. It is nice to know that the magazine is appreciated and we receive even less feedback about the pullouts. As you will know, breaking things down into manageable pieces is not always as simple as it might seem. I don't know if Jim senior forwarded my original message to you. There have been times when we nearly stopped doing the pullout and our biggest struggle was to know what to do a pullout about. So please, if you, your son or the Scouts you work with have ideas about what would make a good pullout, please do get in touch!

Maurice

(Co-Editors' note: Oh dear. After reading this correspondence, we other two are a trifle worried that our Chief may have been overdoing it, of late!)

... and all I want for Christmas are some pullout ideas! - Chief

---

Dear Maurice,

Not being from a maritime background, I have few opportunities to observe knots in action, other than my own, of course. But I recently had a chance to see a few for real when I reluctantly had to have two large ash trees felled which were affected with 'Ash die-back'. I was delighted to see my 'knot-knowledgeable' tree surgeon depending on what he called a Blake's hitch (I checked later!) to support his weight on his main suspension line. He adds a terminal overhand knot for extra safety.

Blake's hitch close-up

In action, relying on Blake's hitch

With some of the larger branches, to control their descent rather than just letting them drop, he used a Killick hitch.
A Running Bowline was used to attach to the top of the trunk, as an extra measure to ensure it fell in the right direction when it was about to topple. Most of his other use of knots relied on various types of Bowline. All in all, for me, a gratifying demonstration of knots in operation.

Killick hitch shown on small branch

Running Bowline shown at ground level

30in diam ash stump showing mark

An interesting mark appeared in the centre of the stump. My garden is near the village's 12th century church. I think my mediaeval forebears would have considered it a 'sign' (of something or other). David Pepper

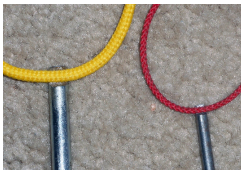
---

Dear Maurice,
A Tool for Turks Heads: I regularly tie simple Turks Heads on tool handles and other items, mainly for decoration. Having wound and threaded the line in and out and over and under, one is then required to take up the slack. Lacking keen eyesight, I find this task usually requires a pricker and a steady hand when using small stuff, or I frequently gouge fibres or strands from the line, string or braid being used. Judicious cutting and heating are employed to conceal the damage but not always successfully.

In an attempt to rectify this problem, I have experimented with metal tools

of various shapes and, in due course, developed one that so far has been satisfactory. However it does seem advisable to have a range of sizes if one is to make THs with different size materials.

I have used different size iron or stainless steel nails and bolts for the shaft but I assume brass would be suitable too. The working end was shaped using rat-tail and flat files and an effort was made to smooth off all edges.



Frank Brown

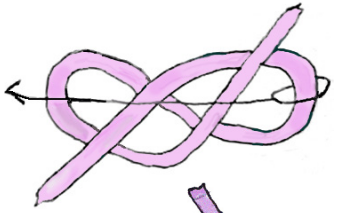
Dear Maurice,
With reference to the Guyline hitch, the Handcuff knot by Richard Hopkins, and the Snuggle hitch in *KM* 148.

There is a further use for the Guyline hitch: to secure a load (a Truckers' hitch) in which case the working end in the drawing would be reversed, the bottom overhand first, then the top one. When the required tension is achieved you can let go of the working end. Even if you shake the working end, the tension would still hold.

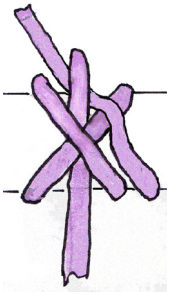
The Lockdown Bowline *KM* 148 will be tied from the top, for safety, use a stopper knot in the working end. Knots can be used in many different ways which will always remain a challenge to knotsmen.

Another Handcuff knot, using cord or rope, is a Constrictor knot, making sure that the crossing part is underneath the wrists (more about that later). Here is one method I use for tying the knot this way which I find the easiest. It was first shown to me by David Pearson at a canal festival many years ago, illustrated in *KM* 132 p5. With a little practice, the knot can be tied and the wrists secured in a matter of seconds, using this method.

The downside of all Constrictor knots is that they have a tendency to jam and a knife is needed to remove them. That is why the bulk of the knot is under the wrists, leaving two cords on top of the wrists (of course, Plasticuffs need cutting off as well).



To tie the Constrictor you will need a piece of cord of about 36in. Pull a bight from right to left, flick the working ends up and down across the loop. Lift the two loops up, fold the knot in half, and combine the two loops to complete the knot. Then secure both wrists by pulling the working ends.



I'm afraid I made a mistake in drawing No 4 of the Snuggle Hitch – the working end goes over then under the standing part.

Owen K Nuttall

(Editors' Note: As Owen didn't provide a new drawing, we edited his original to reflect his correction.)

Dear Maurice,

Attached is a portrait of David Glasson making a model of the tug 'Bronzewing'. The artist is Victoria Kitanov, and the medium is water colour, the size is about A1. I was totally blown away by the craftsmanship and detail, and hope you are impressed as well. There was an article in *KM* 93 pp16-19 by Madeleine Rowles, a few years ago, featuring Dave making dirty big fenders.

Frank Brown

The Royal Australian Navy Bronzewing Class Harbour tugs:'Bronzewing' (501),'Currawong' (502), HTS 503 and 'Mollymawk' (504) were built in the 1960s and 1970s The RAN lent both the 'Bronzewing' and 'Currawong' to the Sydney Heritage Fleet as these 50ft tugs were "surplus to requirement".

Behind 'Bronzewing' on David's workbench is the skeletal model of former RAN general purpose vessel HMAS Bass which was originally begun by Rod Grimes a number of years ago, and will be completed by David Glasson. Both Rod and David worked on the real Bass.

Editors' note: Our thanks to Victoria for the above image and information. David's images illustrating his fabrication of the tug's Doughnut fender will be published in the March edition.

Dear Maurice,

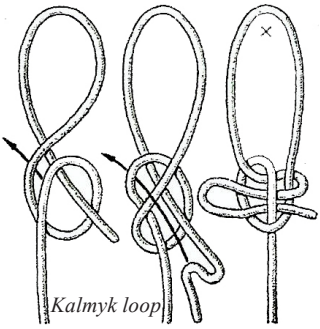
I think the knot mentioned in *KM* 148 pp 9, 10 is similar to the Kalmyk loop.

https://robertharder.wordpress.com/2011/04/15/kalmyk-can-the-kalmyk-unseat-the-bowline-as-king-of-knots/ *

With kind regards

Gerd Heinrich

*(*or use*: https://tinyurl.com/y36ntvcx - *Editors*)



Dear Maurice,

Some 10 years ago, I took a nice piece of 20mm polypropylene and made a soft eye in each end, to restrain one of my farm gates. Moved away. Returned to the area and, on passing, noticed the state of it. Did its job perfectly well, even today, except it had deteriorated to an amazing degree, to the point where I thought it had to go: out with the old, in with the new. Now replaced, as you see (below).

The interesting thing is that, on close inspection, the polypropylene had disintegrated, become friable and, now when rubbed or shaken, produces a shower of tiny strands and particles.

This rope, popular, and more commonly found in yachting environments, (it's rough, hairy and floats, and can save you the trouble, expense, inconvenience, and sometimes life-threatening event of having a rope wrap itself round your cutter-less prop) is busily cutting out various middle men and providing a shortcut to the world's oceans, where it has been shown to be present in various marine creatures, and eventually finds its way into man.

The process is accelerated by the effect of sea spray filling the rope with salt crystals to magnify the UV rays, thus assisting the breakdown of the rope's components.

One answer is to increase the use of natural rope, (see previous article 'Let's hear it for hemp' in *KM* 142). Biodegradable, renewable resource, user-friendly, just plain, all-round 'nice', and smells good too! It has served us well on land and sea for centuries, and more. End of rant.

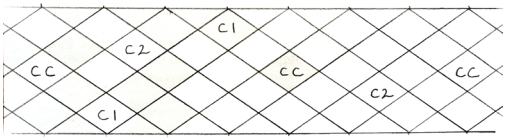
Gordon Teenan

ABOK #1387 SIMPLIFIED

by Joe Bennett

Here is a tutorial for *ABOK* #1387. Diagrams won't be necessary. It is a knot with two cycles, one of six parts and the other of three parts. It can be made with any number of bights except multiples of both two and three. The knot to be shown will have 13 bights.

1-Often I find it helpful to work with compartments within the knot. Overs and unders don't matter for the concept of compartments. In the grid I have randomly labelled some compartments. For example, C2 is the compartment which has two parts of cord to the nearest edge. Similarly, C1 has only one part to the nearest edge. CC is the centre compartment which has an equal number of parts to both edges, in this case three.



2-This is the 6-part cycle in purple 2mm Colourline. It is a simple grommet which follows a Turks Head path. The diagonals from bottom left to top right are over-all and, of course, the others are under-all. The pin colours have no significance.

3-Here I'm using 2mm green Colourline for the 3-part cycle. The 6-part cycle has a left hand lay and this cycle has a right hand lay, just like 3-strand hawser-laid rope. Bring the green cord up from outside the knot, from left to right diagonally, and come out at C2 as shown. This is the start of a cycle from this C2 compartment. I will use 'stepping stones' to describe the cycle. Go right over the 'cross' (over two parts). We are now in the next C2 to the right, marked by a pin.

4-Now go down diagonally, from left to right, under two parts of the upper diagonals as shown. You will come out at a C2 on the right.

5-Go straight right over the 'cross'.

6-Now come straight up, from the bottom, under the centre 'cross' to come up at a C2 on the top. That is a cycle completed. Proceed like this from Photo 3 to Photo 6.

7-Here we have done one circuit. Proceed as before, but go over green. There is now no need to use the 'stepping stones'. Just follow the path just described by eye.

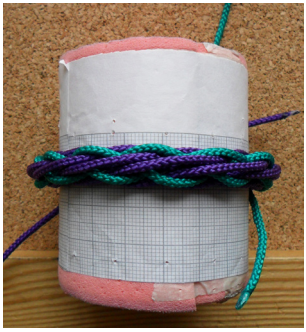
8-Again continue as before, but go under green. Think right-hand lay. Continue like this for another circuit.

9-Here we start the last circuit. The only difference is we go over two green parts this time.

10-As before, but go under two green parts. Again, think right-hand lay.

11-Complete the circuit and come out of the knot as shown. That is the knot finished!

12-Bring the purple end or ends out of the knot .



13-Remove the pins and take the initial slack out of the knot, purple first and then green.

Here is the finished knot on a piece of 28mm dowelling.

I hope you find this tutorial useful!

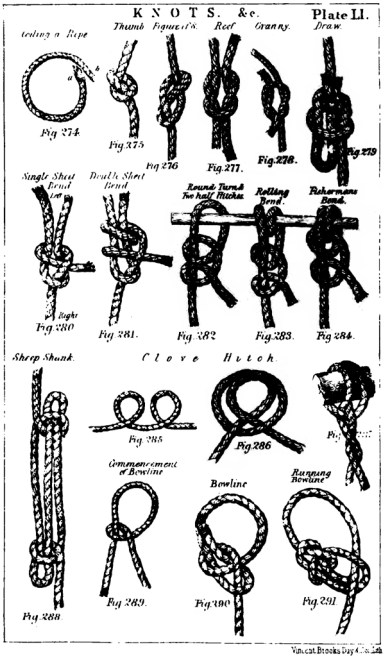
British Army: Knots & Splices

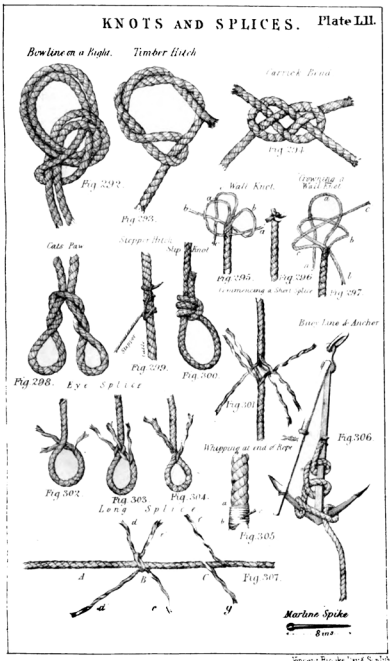
by Geoffrey Budworth

One of the late Guild member Lester Copestake's officers said of him, "He was an ingenious engineer, the only one I knew who could make rope push."

Further to the short feature on Crimean War ropework (*KM* 148), this article confirms that the British Army of the period also practised its knots. Volume I of the *Instruction in Military Engineering,* dated 1st January 1870, commanded, "As it is of the greatest importance that every sapper should be thoroughly acquainted with the different knots … the greatest pains should be taken by the instructors to see that their men can make each of the knots here described in all situations."

Those knots, and a trio of splices, were illustrated in a couple of full-page plates by the London lithographers Vincent Brooks, Day & Son (1867–1940)[1].





The completed knots did not include step-by-step tying instructions. Instead, each was given an instructive paragraph in the form: "Strand A goes over Strand

1 This firm was best known for its celebrity caricatures published weekly in *Vanity Fair* magazine, and for iconic early 20th century posters promoting the underground railway.

B and under Strand C".

The muster of knots, bends, hitches, loops and splices was as follows: **knots** – a Thumb knot, a Figure of Eight, a Reef, plus a Slipped Reef with a single draw-loop, a Sheepshank, a Wall and a Crown; **bends** – a single Sheet bend (ends opposed)[2], and a Double sheet bend (ends adjacent); **hitches –** a Clove Hitch[3], a Cat's Paw, a Timber hitch, Two half-hitches (labelled a 'round turn & two half-hitches'), a Round turn & two Half-hitches (labelled a 'Rolling bend'), a Fisherman's bend, and a Stopper hitch (for a longitudinal pull); **loops** – a Bowline, a Bowline on a bight, and a Slip (or Hangman's) knot[4]; **splices** – the Eye, Short and Long splices, with a data Table listing the length in feet and inches that strands had to be unlaid to make them, in rope from two inches to nine inches circumference.

These instructions were not trail-blazing. There had been many other 18th and 19th century marine dictionaries, encyclopaedias, word books and manuals, one of the earliest having been *A Military Dictionary and a Sea Dictionary by officers who serv'd several years at Sea and Land* (London, 1708).

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2 Ashley called this knot (*ABOK* #1432) the left-handed sheet bend and wrote "*... often tied by landsmen and is not so reliable a knot."*

3 The instruction stated, *'As this knot is one of the most useful, and most frequently required, men should be practised in making it in various positions.'*

4 Do we have a special name nowadays for this sturdy little sliding loop?

How Much in a Mat?

by Gordon Teenan

Further to past comments about being found wanting in the 'how long?' department, a few examples for those of us with an insatiable lust for obscure facts, in the forlorn hope of scoring double points in the local pub quiz, or for the just plain curious. I knew a small boy once, called Raymond, as far as this goes, a totally irrelevant detail, but the thing is, he was full of questions about anything and everything. Sometimes I would have one of my own, always the same one, which was "Why did you want to know that Raymond?" His reply was always the same too "Oh I just wanted to wonder". If you can come up with a comprehensive reply to that, please let me know. I digress.

The picture shows two Ocean Plats and a flat Turks Head. The largest consumes about 28m of 20mm, the next the same of 15mm and the TH brings up the

rear with 14m of 10mm. The larger Ocean Plat could have been tighter I suppose, but several things transpired. It took longer than expected, the grass was a lot damper than I wished for kneeling purposes, and the light was fading rather quickly, so I decided to fall back on that most useful standby aphorism 'Success is better than perfection'.

They all can be finished off by stitching the ends through, or by using a West Country whipping, much disliked by some. As far as the Ocean Plat goes, you can turn the end through 90 degrees and splice across.

Actually, the TH was a fraction on the tight side but just about passed muster. This can catch you out if using natural rope which can swell a lot more than you might like, if tied warm and dry, then exposed to a fairly damp atmosphere. The reverse is also the case, some items can go quite slack, Mathew Walkers, Double Wall and Crowns, and many others, but that's small price to pay for the joy and pleasure of working in the chosen material of the Gods, natural rope.

KNOT ART

by Simon Perry

Simon Perry is a British sculptor, based in Melbourne, Australia. He also lectures in sculpture there at RMIT University.

He is best known for his large-scale public art works for urban spaces in Australia and overseas.

Commissioned jointly by the developers of Admiralty Towers II and the Brisbane City Council, 'Knots' (1996) is a group of three pieces called Bowline, Sailor's knot and Stevedore's knot. They are carved in Helidon sandstone.

Thanks to Robert Birch who suggested that I go and see them!

Photographs: M McPartlan

176-FACE GLOBE KNOT

by Colin Byfleet

A combined effort

The construction of a globe knot using the method created by Don Burrhus whose books are currently out of print, unfortunately. I hope the images are self-explanatory.

Recipe

- *The Globe Knot Cookbook*, Don Burrhus
- 30cm (12in) diameter tubular former, supplied by Willeke van der Ham
- Fitted with 4mm hex socket grub-screws
- Four 15m lengths from a reel of 6mm Hempex from http://www.master-ropemakers.co.uk/ at Historic Dockyard Chatham, UK
- Hollow pinch needle from Bruce Turley, http://www.btknots.co.uk/
- Swedish fid
- 30cm diameter trawler float – a gift from a Scottish harbourman.

Time taken: about half a day per ball, and an hour or so to make the template tube with its screws.

It is interesting how most of the things we do depend on all sorts of people to help us. “If I have seen further, it is by standing on the shoulders of giants” - Sir Isaac Newton and Bernard of Chartres.

In the beginning

Bruce Turley’s needle

Not long now

On the ball

One pass to go

The final tuck

Done

2021 AGM Trustees' Statement

The Trustees have decided that, due to the uncertainties surrounding the Covid-19 situation, the Guild will conduct a 'virtual' AGM in 2021. We have made the decision now, so that members will be in no doubt about our plans. The meeting will be held, probably by Zoom, on **May 8th 2021 at 9pm British Summer Time (GMT+1)**. We realise that this is not ideal for everyone, but with members all round the globe, it needs to be a time that enables as many as possible to access the meeting, if they wish. The Executive Committee has recently found this a workable time, and we have followed their lead.

It will be necessary, for procedural reasons, for members who wish to attend the AGM to register in advance. The details of how to do so, together with the Agenda and all other necessary documents will be included in the March 2021 *Knotting Matters*, and will also be available on the Guild's website. Any members concerned that postal delays might prevent the delivery of their March *Knotting Matters* in time for them to register who would like the above details e-mailed to them, when available, please write to David Bodger (secretary@igkt.net) to ask him to arrange it.

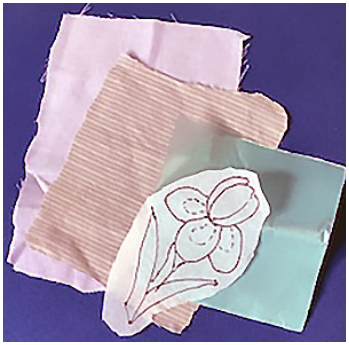
David Bodger
Secretary to the Trustees.

NEEDLE LACE
by Europa Chang Dawson

It's only Half-hitching

We all know the Half-hitch. Some people have covered bottles or other objects in Half-hitching, and to make the work easier, use a line-needle to carry the cord: this is needle hitching. Now consider needle-hitching on a foundation of thread, and without a solid object underneath.

[This demonstration has been designed to provide clear photos. It would be more usual to use finer threads for the foundation, and in a colour to match the Half-hitches.]



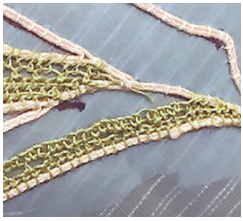
Two pieces of cloth, or one folded over; a design drawn on tissue paper and a piece of book-film, preferably matt. You will also need fine thread for the hitching and thicker thread for the outlining, a needle and scissors.

Design positioned on cloth, tacked down and the stitching begun for the foundation. The foundation must be continuous throughout, and laid down double without the paired threads crossing.

The foundation cord (cordonnet) laid complete. Note how the paired threads result in a channel between them, one thread of the cordonnet locks round the laid pair of any junction and how the ends of the cordonnet are locked (left and overleaf) to finish off.

Detail to show how the thread is fastened on, with the end sunk into the channel of the cordonnet.

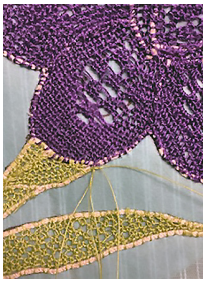
Four pictures showing details: corded stitches = Half-hitches over a lazy strand; missing every second bight to give spaces, bights whipped (over sewn) to the cordonnet when the cell is filled; long bights with extra Half-hitches on the following row.



Two pictures showing details: petal begun with a solid section; and filled with the central section having the stitches differently spaced. This photo also shows another petal worked from a different direction; and the cording (lazy) strand whipped into the long bights.

All the cells filled [I like to start with the cells in the most central positions; working outwards so that it minimises the handling of the worked edges.]

Now the edging needs to be worked to tidy away the finishing ends of each cell. The Half-hitches for the edging (cordonnette) are closer together, and made over padding threads that cover the cordonnet foundation and any loose ends.



Attaching the padding: two long threads are middled and hitched to the cordonnet, starting from a junction.

Cordonnette completed over one section. This detail shows how the outline suddenly gains definition.

I wanted a more prominent outline for the flower. This shows how the padding is held down for stitching. It is possible to use the holding threads as 'posts' for holding extra threads to raise parts of the padding still higher; in this piece, I varied from 16 strands near the base to 24 at the fattest point. The contrast colour was to make the photo clearer. In practice, the padding would have been in the same colour as the cordonnette in case it showed through the Half-hitching.

The cordonnette has been completed at this stage.

The next step is to cut the piece off the cloth foundation by snipping the thread between the layers of cloth

Then the work may be lifted off the cloth

This shows the back of the piece once it has come clear of its foundation. The next step is to pull out every strand of the holding stitches (in white) and involves time, tweezers and patience.

The completed piece, backlit, to show the details of the patterning.

Normal lighting, right side up.

It is only Half-hitching!

This is a simple piece of needle lace, and the demonstration glides over many points. (If you want to learn to make needlelace, I can recommend *Starting Needlepoint Lace* by Valerie Grimwood.) Of course, needle lace can be taken to much higher levels of design and technique (see below).

In the 17th century, when needle lace was at the height of fashion, there was a giant economic battle between Venice and France. One consequence was that Colbert (the Minister of Finance) established a lace industry, and the Lace School at Alençon is still active today, but that is another story.

PUBLICATIONS GROUP

At the inaugural Publications Group meeting, Jim Caswell and Maurice McPartlan were asked to review Harold Scott's *Cruciform Turks Heads*[1] and offer an opinion as to whether the Guild should republish it. This is a brief summary of their findings.

Part of this review process involved a reasonably broad examination of the available literature. It revealed that, apart from a single entry in Ashley (#1397) and some rather complex mathematics in Turner and Schaake's publications, Harold's work appears to be rare in the field of Cruciform or Complex Turks Heads! The same is true of the work of Captain Allan McDowall, which Harold references, and who also published on CTHs in *KM*.

It is immediately obvious from the scope, detail and illustrations in his pamphlet, that Harold had indeed mastered the rather esoteric and specialised discipline of CTHs. His achievement is all the more commendable because he worked without computer-assisted drawings or calculations and, we understand, came to the documentation process quite late in life. However, despite his obvious success in making his cruciform shapes and wheel coverings, his explanation and reasoning behind how he did it is less easy to follow:

The principal process used for development and working of the CTHs is based on the so called 'Origami' method which is not illustrated in the work. However, Harold credits this method to Captain Allan McDowell and refers readers to *KM* 16 for details.

- While reference is made to CTHs of different Bight sizes, all illustrations are 6-bight arrangements only and, confusingly, all illustrations are presented as 3-bight arrangements with a note in the text and also with the first illustration advising "Two drawings are needed ...".
- The diagrams are also problematic in that, in many cases, the number of leads and crossings illustrated are inconsistent with the number specified.
- Several tables specifying numbers of strands required for various combinations of leads and bights on the two cruciform axes are presented but no real discussion is offered on the logic or reasoning as to the generalised rules applied.
- Two separate 'string run' configurations are identified in one case, "the string run gives a hexagonal shape at each of the four (cruciform) junctions" and, in the second case, "the string run gives two pentagonal shapes at each of the four (cruciform) junctions" but there is no discussion on how or why each configuration is derived or applied.

1 Harold Scott, *A Guide to the Multi, Single-Strand Cruciform Turk's Heads* IGKT 2001

These comments are not necessarily criticisms of the publication but rather, tantalising insights into Harold's understanding of the 'world of CTHs', avenues for further research and subjects for discussion and clarification in *Knotting Matters*. We feel that it would be a great pity if his work were to be lost or forgotten.

His book is not one to recommend to inexperienced knotters as a 'How to' solution, rather a puzzle to challenge and stimulate those who enjoy such activities.

With all of the above in mind, we have recommended that a pdf copy of the book together with Captain McDowell's *KM* articles appended, be placed in the members' section so that they can be accessible to members.

Harold Scott

Harold Scott was a member of the IGKT for many years until his death in July 2006. He is remembered not only for his Cruciform Turks Heads, but also for his amazing wire work.

Harold with founder member Des Pawson at TS Swiftsure, 2001

We understand that Harold was an orphan who went to sea at an early age. His first voyage at the age of 13 years was aboard the *SS Coriga,* where he was taught wire and canvas work by a Swedish AB who had worked on sailing ships.

Cruciform Turks Head Candelabra

Harold spent time as a North Sea fisherman aboard trawlers during World War II, where he would have honed his skills with wire work. Of this time, he would say, "Once your sea boots filled with water, you left it in. Otherwise you got frostbite!" Ashore, he passed his knowledge on to the younger generation as a Sea Cadet Officer.

Harold spent his later years far away from the sea with his wife Ethel in the small Northamptonshire village of Brixworth. From here he would often

attend shows spreading the work of the IGKT with such members as Frank Harris, Fred Carrington, Albert 'RN' Burton, Jeff Wyatt and Robert Jackson.

Harold was a modest and gentle man who was always ready to help others learn some of the skills he had acquired over many years.

When asked what special tool he used for his amazing wire work, he simply replied, "Just a small electricians screwdriver!"

An example of Harold's amazing wire work

Knot Charts

Jim Caswell (Aus) noticed that p56 of the IGKT Knot Charts, 'Square Lashing' by Percy Blandford, contained errors in that the illustrations did not match the text (*KM* 146 p9). We can only assume that during the process of creating a digital copy from the original document, these illustrations were rotated incorrectly.

The Publications Group have corrected this error, but in the process noticed some more errors in the charts. In an effort to correct any other errors or omissions and to digitally enhance the text, they are seeking the help of IGKT members. The Knot Charts appear as a free download on the IGKT website and help showcase the work of the Guild. Members are asked to scrutinise the illustrations and text on the Knot Charts and submit any errors they find by email to publications@igkt.net.

To celebrate 150 issues of *Knotting Matters*, it has been decided to republish a number of articles with a common theme that have appeared in our newsletter/magazine over the last 38 years. The theme chosen is the Turks Head, being the emblem of the Guild and probably one of the most written about knots to appear in *Knotting Matters*. The articles range from the simple to the complex. As part of the effort, the Publications Group will be contacting existing members whose work they intend to reprint to ask for their permission to republish. However there are authors either deceased or who are no longer members whose permission, or that of the holder of their copyright, we would like to obtain if possible. If you are aware of persons who might be affected by this and you have their contact details, would you let the group know via email at publications@igkt.net.

Variations on a Triaxial

by Maurice McPartlan

For those readers saying to themselves “Oh no! Not again.” Don’t worry I’ll keep it brief. For those excitedly rubbing their hands in anticipation, Don’t worry, brief is enough!

Thinking about the round triaxial plait – this won’t work in the flat – which gives the star pattern (*KM* 140, p33), which started with rrbrrb + brrbrr, I have replaced the right hand black strands with white so that we get rrbrrb + wrrwrr. (In my haste to document the process, I used undressed 5mm kangaroo.)

and we start as in steps 7-12, pp33-4.

Plaited up you will get a hint of what is happening: black diagonals with spots of white (left). If we look for the r,b,r vertical sequence (marked, right) and insert black verticals, we end up with a series of cross-shapes

NB This Ceiling knot effect would also work if we had not replaced the right-hand black strands with white ones.

We could also put in white verticals instead of the black ones and achieve a similar result (far left).

If we insert the two vertical reds between the black ones, we then make a series of stars separated vertically by a white spot.

Spectacles cord and two bracelets with these configurations

Kelly Pool Bottle in Spanish Lace

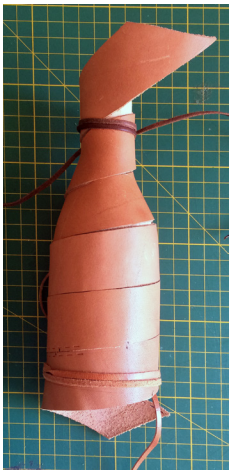
by Jim Caswell

I was fascinated by the little bottles being produced by the wood turner at the Men's Shed. All in a variety of timbers glued together to create very interesting and quite striking patterns but, all the same size and shape. I had to ask "What are the bottles for?" "Oh! They are Kelly Pool Bottles."

"OK. (Feeling a bit dumb) What is Kelly Pool?" "Well (sigh of resignation), you put marbles in the bottle with pool ball numbers on them. Shake bottle. Tip a marble into each player's hand. They hide the number. Play Pool. Aim of game is to try and leave last ball standing to be ball with your number on it. Simple and a lot of fun! Why don't you have a go at making a bottle out of leather, that should look nice."

"OK. Challenge accepted." Had previously made 'stubby' holder from a spiral strip of cowhide laced together with Spanish (Cordovan) Edge Lace so thought; "OK! Let's try that".

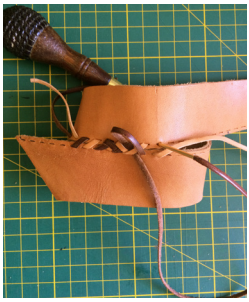
Tried, but could not figure required strap shape or size theoretically, so had wood-turner friend turn a Kelly Pool bottle last on lathe. The bottle last was first given a liberal coating of talcum powder (so tape would not stick) then covered with about three layers of masking tape. A spiral line was drawn around the last, bottom to top, on the masking tape using a pair of callipers to maintain a constant width of about 25mm. The masking tape was then cut along the spiral line, with a sharp knife, and peeled off to provide a template for the strap. The very surprising final shape resembled a shepherd's crook (right, beside 'last').



A strip of heavy cowhide was cut to the shape of the template and wound back on to the bottle last to check the fit and logic (left). All good!

Lacing holes were punched along each side of strap with a 4-pronged lacing chisel (left) and the strap then laced together along the adjoining edges in a spiral configuration with a two strand Spanish Lacing of one loop (right).

See Grant's *Encyclopedia of Rawhide and Leather Braiding* (p294) to learn more.



A real benefit of this lacing system was that the inside surface remained completely flat (right).

I have to say though, after the strap had been completely laced together (still minus bottom), it didn't look very bottle-shaped. It was 'bottle-ish' and did have a round base and a smaller, round top, but it sort of bulged out in places it should not have bulged!

No problem! leather is very malleable when wet, so gave it a good soaking, placed it back over the wooden bottle last, wrapped it tightly with several layers of plastic wrap. Left it for a couple of days and it came out all 'Bottle shape and Spanish fashion'!

The surplus was trimmed off square at top and base. A leather disc was cut to fit the base (right) and the top and base were finished with a round braiding of two strands to simulate a four strand round plait.

All done!

Kelly Pool anyone?

More Dogging the Tails

by Colin Grundy

Following the previous article on 'Dogging the Tails' (*KM* 147 pp44-46), further uses have come to light on this technique that some may find interesting.

The first was brought to my attention by Guild member Robert Birch of Australia. It comes from *br-67(1) Admiralty Manual of Seamanship*, (May 1995) pp166-167, called 'Man-made Fibre Cordage Stopper'. It is used as a temporary stopper on a fibre hawser. The tails are laid in the direction of strain and the ends are either held in the hand or stopped to the hawser. The link to this document can be found at https://www.amphion.ca/wp-content/uploads/2019/02/br-67-admiralty-manual-of-seamanship-1995-05-01.pdf or (https://tinyurl.com/yxcp8kx7)

I came upon the second example purely by chance. During a few days away in the Peak District of England, Jane and I walked part of the High Peak Trail which follows the former Cromford and High Peak Railway, a goods and mineral line that ran from High Peak Junction on the Cromford Canal for a distance of 33 miles to the Peak Forest Canal at Whaley Bridge. Originally horse-drawn and later by steam, the wagons travelled up the first 100 feet of the line at a gradient of between 1 in 8 to 1 in 14. Too steep for locomotives, the goods were hauled up these sections by chain, and later cable, using stationary engines at the top of the inclines. Opened in 1830, the line was eventually closed by 1967.

Upon returning home, curiosity about the line saw me streaming some videos on YouTube. One of these https://www.youtube.com/watch?v=kAwXDpa-WC4 showed wagons being hauled up and lowered down the incline plane during the 1930s. Imagine my surprise at finding the technique of 'Dogging the Tails' being used, albeit with chain rather than fibre rope. The tails were secured in place using what appears to be leather straps and the men attaching them are very adept at applying them to the cable. Health and Safety leaves a lot to be desired and it makes you wonder how many accidents occurred.

The Guild has opened an Amazon Smile account which results in a small donation being made to the Guild by Amazon for all purchases made – if the customers register with Amazon Smile and buy from that site. Unfortunately it is only available within the UK, but could provide a modest income. There are instructions on the home page of the IGKT website with directions to the banner.

The Constrictor Knot in Steel

by Raymond McLaren

Useful Artifice or Industrial Curiosity?

Author's note*: This article is intended to show an unusual application for one of the knot tyers' favourite knots. It is not intended to explain or divulge the methods or special tools used in this application at this time, which would make for a very long article.*

The Constrictor knot belongs to a class of knots known as binders, and in *ABOK*, the primary reference to it is #1249. However, Ashley seems to especially like this knot, because he refers to it throughout the book (at least 16 times). Occasionally he mentions it under a different number, as #1250, #1251, #1252, #2489, #3441. As #3583, it is the second-last entry in the entire book! I learned this knot from *Knots Splices and Fancy Work* by Chas. L Spencer, and this classic was to lead to a $5,000 fine for an overdue book, when I returned it to Newcastle Library, a mere 53 years late!

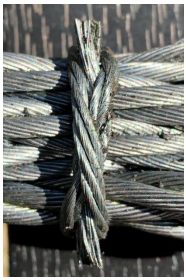
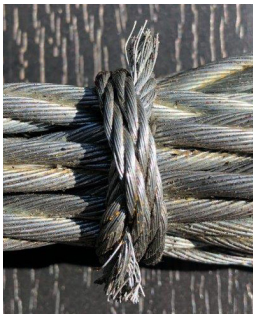
But it was worth it, applying some of the basic knotwork from this book to the field of steel ropes which, with engineering knowhow, has enabled me to build up a small industry in rigging gear.

For me, the Constrictor knot is very special, because I must have tied over 100,000 of them while splicing wire ropes in my early business life.

Splicing wire rope was a craft which I had learned during my engineering studies at Newcastle in the 1950s, and I turned it into a useful paying enterprise to finance my trip around Australia. I soon found applications for hand splicing wire ropes everywhere I went. This was before the pressed ferrule (Talurit system) came into general use, and slings were manufactured from laid wire rope of six strands, by hand splicing the two ends into loops called 'eyes'.

In those days the strands of wire rope were not preformed, which meant that when it was cut, the strands would unlay for some distance from the ends. In order to counter this, it was necessary to bind the end with fine cords, so as to be able to pass the strand through the rope, and lay it in beside the marline spike, as the splice progressed.

I used the Constrictor knot to bind the ends, and each splice required six knots to be tied. I have estimated that I put in around 20,000 splices in wire rope in sizes 10mm, 12mm, 14mm, 16mm, 18mm and some in larger sizes up to 50mm. (20,000 x 6 = 120,000).

But that was a long time ago, and now, a new use for this amazing knot is opening up, still to do with seizing cable ends.

At my company Andromeda, we have now learned to make this knot in steel cords, up to 6mm diameter to make off the Superflex plaited steel cables before cutting. These cables range up to 96mm in diameter.

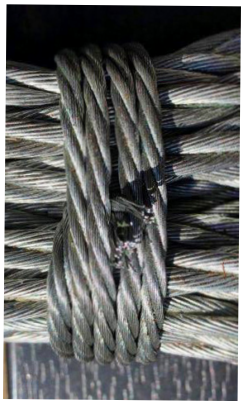
Binding plaited steel cables of this size and type requires generating very high radial forces, something none of the usual industrial clamping systems can provide. It is also an advantage to be able to put on these bindings quite close to the cut, and be secure enough to stay put during the cutting operation.

Enter the Constrictor knot. Properly applied in high tensile steel wire cords, this knot can bind the largest cables. Successful binding is important, because these cables are expensive, costing hundreds of dollars per metre, and rebellious cable-ends can escape and cause a loss of lay after cutting.

In this application, the serious and purposeful side of this knot is revealed. When applied around a steel cable 96mm diameter, with a cord tension of 1,000 kgsf, this knot proceeds past the point of releasability. It cannot be untied. It is a true one-way trip, the only way out is by its destruction. But it has provided a very useful service.

Some new work: During our normal work, we use the standard Constrictor knot, but while doing some tests we could not resist playing with some alternative configurations. The pictures on the next page show some of these.

Ashley may give some of these knots a different name if they appear in *ABOK*, but I think they are basically constrictors by the way they operate. The series



showing the Single, Double and Triple Constrictor may be informative and useful for use in some arcane and, as yet, unknown industrial, medical or scientific application.

I have pondered at times about Constrictor knots, and often liken them to a Black Hole, in that once they bind down beyond a certain point, there is no reversing them. Maybe somebody else in the Guild has considered this peculiar and rather fascinating aspect of binding knots?

This series of pictures was made during knot experiments in 2019 and 2020.

Raymond McLaren, Moonbi NSW
mclarenraymond@yahoo.com

IGKT Membership Cards

If they wish, members can now print a membership card, though there is no requirement to do so.

On the IGKT website (www.igkt.net), log in with your Username and Password. Click **Manage my Membership** (on the left of the page) then **User Profile**, and click on the heading **My Subscriptions.** Under the section **Member Card,** clicking **Download** will download a pdf document into your download folder. You will need a pdf reader such as Acrobat Reader to open it.

To print your card, choose 'Actual size' to print it in the top left of an A4 sheet, which can then be cut to size. You may have other options with your printer or software.

NB Our database records only go back to 1992, so some members will see their membership dates from January 1992 even though they may have joined earlier. If you know the date you joined, please contact the membership secretary to update your details. You may print a new card at any time.

THE HANSON KNOT

by John Sherry

As the owner, author and illustrator of one of the internet's most popular knot tying reference websites, www.NetKnots.com, I am continually researching, drawing and writing about knots to add to the site. I often have sketches of 'new' knots sent to me for opinion. I do not have time to research these unsolicited submissions and generally file them away. There are more than enough existing knots with interesting history and present day use to keep me busy.

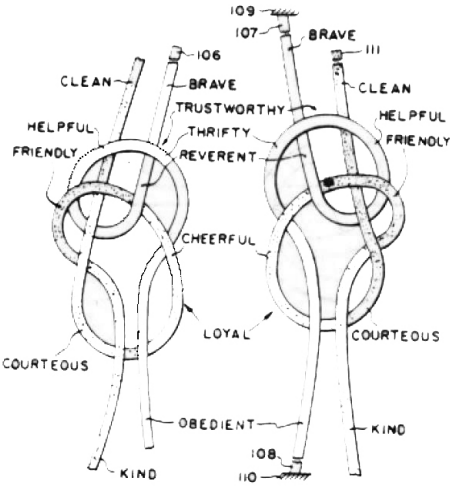
A while back, I was looking through the 32-page Boy Scouts of America publication (copyright 1978) *Knots and How to Tie Them* and came across the Hanson knot. The single page dedicated to the knot gives only the instructions and accompanying illustrations to tie the Hanson knot and one variation. There is no discussion of its origin or history.

After tying and testing the knot, I found it to have similar properties to the much better known and documented Bowline knot. It is a strong loop knot, doesn't slip and is easy to untie after being loaded. My curiosity was peaked and I immediately went to the *Ashley Book of Knots* for more information. My 1944 edition had no listing for a Hanson knot so it apparently post-dates that work. It is possible it has another name in history but I could not find it. I scoured later works in my library, but could find no mention of the knot. In the end, I put it up on NetKnots.com with the following message: "if anyone knows the history of this knot, please write to us".

It took a little over one year before Dennis Pence (Roundtable Commissioner, Pathfinder District, Southern Shores Field Service Area, Michigan Crossroads Council, BSA) contacted me about the Hanson knot, and its story is more interesting than I could have imagined! Rather than paraphrase the letter I will quote part of it here:

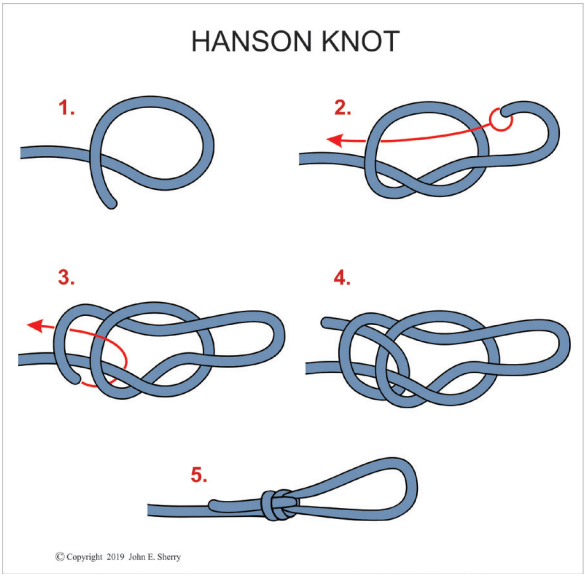
"A few years ago a long-time scout leader here in Kalamazoo, Michigan shared with me some of the history about this 'Boy Scout Knot' called the Hanson knot. Apparently it was developed by Alden Hanson, who was a scout leader but also seemed to work at Dow Chemical in Midland, Michigan. Thus he took the unusual step of submitting a patent application for the knot, and then donated it to the Boy Scouts of America. I have enclosed a copy of the patent application. Interesting within this are the diagrams that relate the parts of the loop knot to the twelve points of the Scout Law. The patent application also shows how to tie the related bend to join two ropes."

The abstract for this patent, number 4,711,476, dated December 8 1978 states: “A knot or bend for use with single or multiple lengths of material and comprising an overhand knot entwined with a crossing knot. The resulting knot or bend is decorative and capable of being tied in a variety of different ways. The knot or bend has great security, but easily may be loosened and untied when desired”.



I have included one of the patent application illustrations (that shows the aforementioned naming of the parts of the knot to the twelve points of Scout Law), and my own illustration from NetKnots.com. The website also has an animation of the tying of the knot. A cover letter from Dow Chemical is also attached and refers to the knot as the ‘Dow-Hanson knot’.

The patenting of a knot seems a little unusual but is not unprecedented. The US Patent and Trademark Office has an official classification just for knots: Class 289 Knots and Knot Tying. The subclasses deal mostly with weaving, textiles, netting, spinning and some medical uses.



I do not know the number of knots that may have been patented over time, nor the number that may be active, but it seems that there just isn’t much money in patenting a knot. It makes more sense to share the knowledge with others, just like we see here in *Knotting Matters*!

John Sherry
jes@jesherry.com

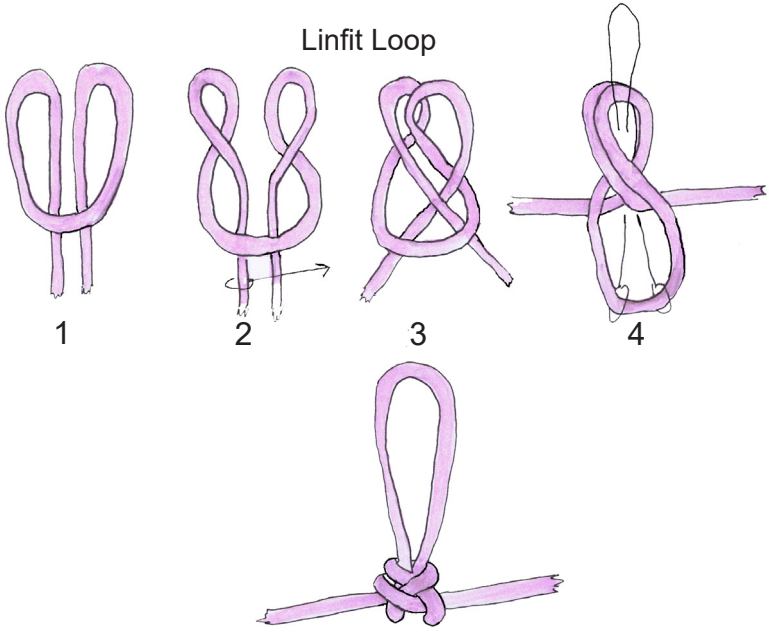
THE LINFIT LOOP

by Owen K Nuttall

Seven or eight years before I joined the guild (1984) I came up with a single loop on a bight. It was compact and secure, intended to hold a baited hook above a perk, for sea fishing. After I joined the Guild, looking through *ABOK* for loops on a bight, I could not find one that looked like mine. So I called this knot the Linfit loop and sent it to *Knotting Matters*, along with other knots, in 1985. It was published in *KM* 17 (1986), 34 years ago.

Shortly after I joined the Guild I came across the Alpine Butterfly knot aka the Lineman's loop. So I tied the Linfit loop in climbing rope and tested it by attaching a 56lb weight to the loop and lifting it with both standing ends, then one standing end at a time: the knot remained secure.

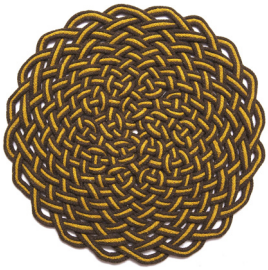
To tie the Linfit loop from the drawings, on Fig 3 put your finger in the middle of the top loops and your thumb in the bottom loop, pull the bottom loop down until the top loops encircle your finger. Put the bottom loop through the top loop. Pull the top loop with your third hand (your mouth), pull the legs in opposite directions to complete the knot. The Alpine is easier to tie but not as secure as the Linfit loop (that's just my opinion). The Linfit loop is easier to untie even after loading: reverse the knot, push the top loop up and the knot unties easily.



Covid-19 Pastimes: Part 2

by Colin Byfleet

The period of minimal travel which has resulted from the COVID-19 pandemic has continued for longer than most of us expected and certainly for longer than we might have wanted. Spending more time at home, I returned to an earlier interest and looked again at making circular mats.



The authors mentioned in my previous articles (*KM* 132 & 133), Nils Kristian Rossing and the Åström brothers, Alexander and Christoffer, have extended and updated their work on circular mats. The Guild has published the Åströms' *A Practical Approach to Circular Knotworks* (ISBN 978-0-99-319080-3) in which the simple Celtic circular knots have been extended with interlaced layers like a Turks Head.

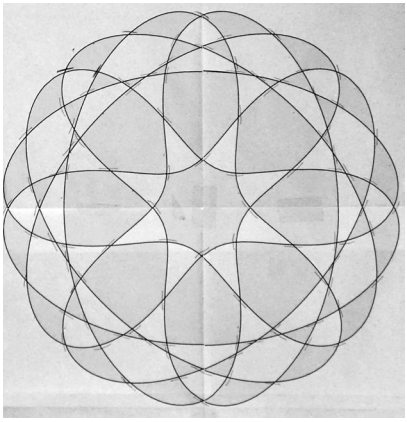
Rossing has updated and extended his original *How to Make Rope Mats and Rosettes* (ISBN 978-82-92088-48-7, available from the Guild in English) in a new edition which is, so far, only available in Norwegian (ISBN 978-82-92088-65-4, Norwegian University of Science and Technology). This second edition includes updated computer references and also shows knotworks cut from wood with a laser-cutter.

Rossing suggests employing a very widely-used free programme to generate these circular designs – *geogebra*. (www.geogebra.org). If you have a copy of *How to Make Rope Mats and Rosettes* and have struggled with the programmes mentioned there, do try using *geogebra*, it is so much easier. There is a section at the end of this article which, I hope, will make using this computer programme clearer.

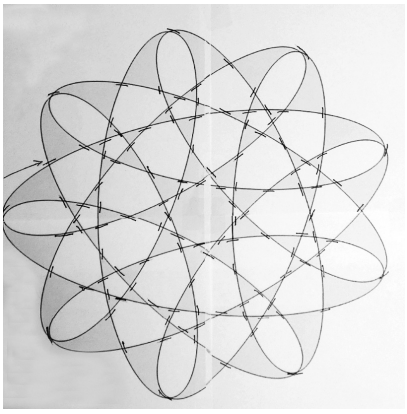
In my work, I usually convert the newly-generated design into a multi-page poster, using Photoshop. I then print this at about the size needed for the diameter of rope to be used and hence the size of the finished mat.

This will involve one page of A4 or Legal for a small mat of perhaps 2 or 3mm cord, and up to a 5 x 5 sheet poster for a mat made with 3 passes of 12mm rope (about 1.5m (4ft) diameter). On this print-out, I then start to follow the curve from any starting point and add the alternate over-under cues at each crossing. Getting back to the start, with the whole design covered, happens automatically. All the designs made in this way can be tied with a single cord.

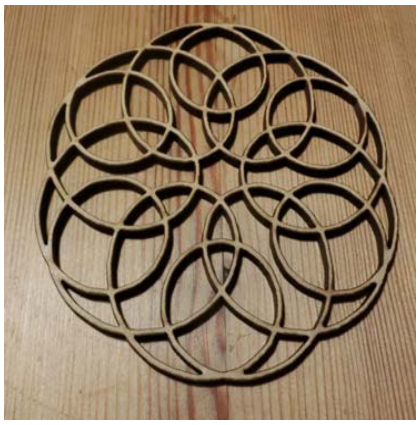
Here are a couple of finished mats, together with their design templates.



6mm braided cotton cord, about 45cm diameter. 4-page design poster



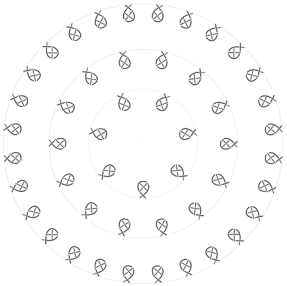
12mm 4-strand cotton rope, about 55cm diameter. Design poster made of 9 A4 pages



Laser cut 'knots'

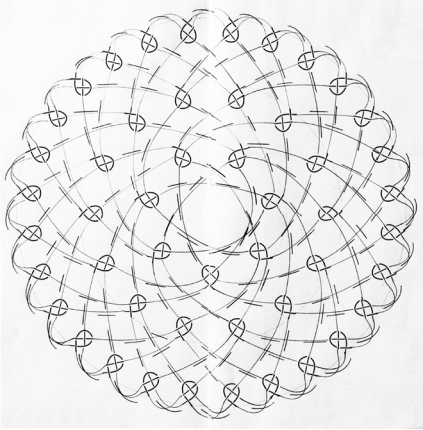
Having spent several days designing and making these very satisfying mats, I felt the need for a change and took up the Åström brothers' advice to put some Turks Head interlacing into Celtic-style mats based on this classic loop and cross design.

Although it is easy to persuade the computer to draw symmetrical circular arrays of this pattern (see example on right), I have had to resort to my very poor drafting skills to add the interconnections. I found my wife's set of seamstress's French Curves a real asset.



Loop-cross pattern with 7-fold symmetry and three layers of loops.

Below is a design showing over-under pattern and and some Turks Head interweaving in between the layers.



Loop-cross pattern with 7-fold symmetry and three layers of loops and added over-under guidance.

A completed mat using this design method was my contribution to World Knot Tying Day on September 18th 2020 and is shown below.

Finished mat made of three passes of 3mm cord

There are more images of these mats on the Guild website's *Knotting Matters & Book Reviews* tab → *Supplements* → *Circular Mats.*

Using Nils Rossing's advice, I have set up a very general equation in *geogebra* which, if you enjoy playing, you can download from Dropbox at:

https://www.dropbox.com/s/hsicdzmec6tbz8h/GeneralRosematEquation.ggb?dl=0 (or email me at cr@byfleet.org for the link).

This all looks a little daunting, but it is very much worth the effort if you forget that it is maths and consider it to be just a design tool. It has kept me cheerfully quiet for hours!

Once you have *geogebra* on your computer, you can then just use it to open this equation and play with the adjustable sliders (the black dots on the left) to generate new patterns. As you do so, the equation at the top of the screen will change and the pattern will alter simultaneously. Be attentive: only some combinations of settings give visually pleasing designs which may be tied.

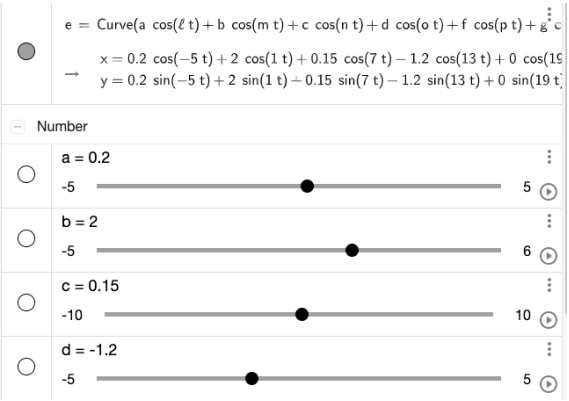
Sliders ‘a’ to ‘k’ adjust the numbers in front of the sine and cosine functions. Sliders ‘l’ to ‘u’ change the numbers inside the brackets in the equation. This second set must have constant differences between successive letters to make designs suitable for tying. Other combinations give designs which are interesting in different ways.

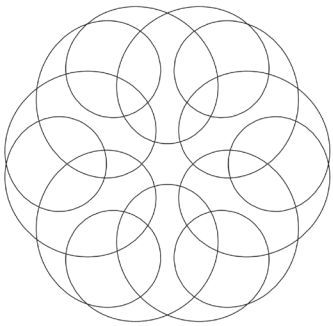
The default setting for these values is: l = -5, m = 1, n = 7, o = 13, p = 19, the difference being 6 each time. You can see that this gives a figure with 6-fold symmetry (see image below).

Changing to l = -5, m = 2, n= 9 etc., with a difference of 7, leads to a design with 7-fold symmetry. The sliders ‘a’ to ‘k’ may need very slight adjustment to make the design perfect. If you would like some other good starting combinations of these slider values, please email me.

After generating a suitable pattern, you can export the image, print it and just add the over-under cues by hand. Unfortunately, I haven’t yet cracked how to do that automatically. The nice thing is that, having generated the pattern in this way as a plotted curve, it is automatically able to be tied with a single cord.

Here’s a screen shot of geogebra showing some of the sliders and equation and also an image of the sort of design produced. Have fun.


e = Curve(a cos(ℓ t) + b cos(m t) + c cos(n t) + d cos(o t) + f cos(p t) + g c
x = 0.2 cos(−5 t) + 2 cos(1 t) + 0.15 cos(7 t) − 1.2 cos(13 t) + 0 cos(19
y = 0.2 sin(−5 t) + 2 sin(1 t) + 0.15 sin(7 t) − 1.2 sin(13 t) + 0 sin(19 t
Number
a = 0.2
-5
5
b = 2
-5
6
c = 0.15
-10
10
d = -1.2
-5
5



Golden Ratio Turks Heads

by Geoffrey Budworth

A Turks Head is generally one of three kinds: square (*ABOK* #1319) with one bight more or less that its number of leads; wide or long (*ABOK* #1320) with many more leads than bights); or narrow (*ABOK* #1321) with more bights than leads. There is, I suggest, another category, in which the lead and bight proportions are 1 to 1·618 (well, more or less). This ratio, 'the Golden Ratio', has been deemed pleasing to the eye for centuries, and used by artists and architects from Leonardo da Vinci to Le Corbusier and Salvador Dali.

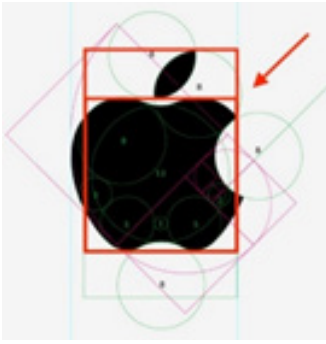


Illustration courtesy of Google images

THs that fit the Golden Ratio are easily identified from the Fibonacci[1] sequence: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377 … *ad infinitum*, where each number is generated by adding together the two previous numbers, eg 8 + 13 = 21.

And here's how to do it. Any one of these numbers divided by its predecessor yields an answer close to the Golden Mean, for instance, 8 ÷ 5 = 1·6, 13 ÷ 8 = 1·625, 21 ÷ 13 = 1·615. The higher the pair of numbers the closer the relationship approaches 1·618.

So, any TH with leads and bights made with two neighbouring Fibonacci numbers could be called a 'Golden Ratio Turks Head', irrespective of how many strands[2] are used to tie it, the over/under weave sequence, and whether or not its leads outnumber the bights.

Because the Fibonacci series grows exponentially, most of us will only ever tie the lower numbers and, as THs are already eye-catching, maybe a Golden Ratio TH whether deliberately contrived, or by chance, will do little to enhance that.

But, as the late Guild member Brion Toss wrote in his 1984 book *The Rigger's Apprentice,* 'I've always thought that the Turks Head's beauty, range of usefulness and elegant mathematical underpinning, qualified it as a miraculous knot.'

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1 Leonardo of Pisa (c1170-c1230 CE), son of Bonacci (Latin: *Filius Bonacci*, hence Fibonacci)

2 *GB will be aware, of course, that all sequential pairs of Fibonacci numbers are co-prime, so any 'Golden Ratio' TH can be tied with a single strand - Editors.*

OBITUARIES

Catherine Frances Goldstone

1st June 1946 - 21st March 2020

It should be remembered that, for Catherine, one of the Guild's earliest members, knotting and more especially macramé, was just one element of her extremely full life.

Catherine trained in catering and hotel management at Westminster College, providing a strong foundation to her support of the Conservation Corps, Cub and Venture Scouting, WRVS (Emergency Coordinator), National Trust on Brownsea Island, Community Help and Support, and working for special needs groups in hospitals and community homes as a volunteer and teacher. She supported and helped organise many clubs involved in her beloved arts and crafts, not least with her proficiency in the revival of macramé and creative knotting.

Through her macramé, Catherine joined Glad Findley's group in Guildford (the forerunner of the Surrey Branch, the Guild's first) which was where she discovered the IGKT. She and Peter joined after the inaugural meeting on HMS President in 1982. In *Much Ado about Knotting,* Geoffrey Budworth remembers that Catherine was also a member of the Guild Council (the forerunner of the current Executive Committee) for three of the first ten years of the Guild.

Europa Chang Dawson remembers:

> "Catherine was one of the first people I met when I joined IGKT. She had some elegant macramé bags on the Surrey branch display table, and was demonstrating square-knotting on a cork board with T-pins. As I came to know her better, I discovered that knotting was only one facet of this splendid lady's life. She was a wonderful cook, a much-loved teacher of the handicapped and, above all, a superb back-up whatever the occasion, because she cared so much about everyone she met.
>
> One of my non-knotting friends tells of how she and her husband had been posted to the Netherlands, and found themselves living near the Goldstones. She said she never felt isolated because she has such real friends in Catherine and Peter.
>
> Another knotter friend tells how he had attended his first ever AGM with

his mother. Catherine had immediately came to sit with his mother while she had a cup of tea, and told him to wander round and enjoy looking at everything, so that both could make the most of their visit."

Ian Schofield, who joined the Surrey branch in 1999, said that by that time, while Catherine was no longer an active member of the branch, she attended the Guild social events and meetings with Peter. Ian's picture of Catherine and her stand, with her famous bags and owls, was taken at Weymouth in 2019.

Catherine with her bags and owls at Weymouth

It is true to say that Catherine was one of the rare individuals who helped IGKT develop the 'family feeling' that so many of us appreciate at gatherings. Our condolences go to Peter and their family.

Peter writes: our houses in Enfield, Woking and now Handley, reflect Catherine's unbounded creativity and organisation, a challenging act for us to follow! As a loving wife for 51 years, mother and granny she created a wonderful example of devotion and care to our family and friends. We mourn her passing but rejoice that she is now beyond all suffering and at peace, free of a challenging illness that she bore with great fortitude whilst endeavouring to continue her craftwork and enjoy the wonder and beauty of our world. RIP

Nick Palmer

3rd September 1954 - 7th September 2020

Earlier this year, *Knotting Matters* received the following message:

"I was once a member, but allowed my membership to lapse. However, as I am fast approaching retirement after 43 years in Devonport Dockyard as a 'Ship Rigger' I have a lot to share in the way of anecdotes and images. Sadly I will soon be the last Rigger to retire from the dockyard, as the riggers' trade status has been dropped and replaced with a basic craft skill status (with a substantial pay cut), but that is progress I guess. I have been fortunate to have experienced many different roles, from working on HMS Britannia (Royal Yacht), to being the last civilian rigger to work with the Devonport Field Gun crew, not to mention on many different warships. I have seen many people come and go, and now it is my turn, so if anybody wants to contact me for a chat, I'll be pleased to respond. Regards Nick Palmer"

Following this, and in recognition of all that Nick had offered and could potentially offer in the future, in terms of his experience and knowledge, the trustees offered Nick honorary membership.

However in September, Nick's wife Lin, contacted us to say that, having retired in June, sadly, Nick had died. He had suffered from a particularly aggressive cancer, but a lot of time spent in hospital over several months, including intensive chemotherapy, failed to save him. At the end of his last two-week stay in hospital he suffered pneumonia and Lin was told there was nothing more the medical team could do for him.

Des Pawson told us: "I knew Nick well. He really was, as he outlines, a piece of actual history. He helped me save, for our Museum, a great range of tools and other interesting items from the rigging shop which would otherwise have been chucked out. Nick was indeed a friend. I think it was in 1997 that we first met at the Dockyard, where he organised a visit for us. We were linked by our joint interest in the rigging world. He felt so passionately about his trade as a rigger, and was very upset at the way the dockyard trade was going. As Nick was aware, we are in the process of transferring our museum collection to Chatham Historic Dockyard so it will be safe for the future. At Chatham the exhibits will be properly looked after, catalogued, photographed, and in due course put on line for the world to see. All the items he facilitated coming to us are attributed to him in one way or another. Nick also arranged for a number of visits to the Rigging Shop, giving me plenty of material for my Monograph #9: *Riggers' Blocks*. He gave me many useful insights into the trade of the dockyard rigger and helped me with my research. It was a casual comment, "Oh they came from South Yard Rigging House" that alerted me to the fact that the shorter Riggers' blocks were very likely to be from the late 18th century, a piece of information that could so easily have been lost.

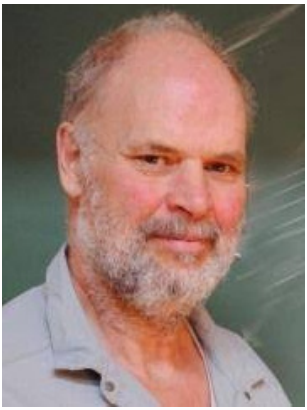
Lin, sent us a couple of pictures to go with his obituary and added:

> "Just before I close, I thought you would like to know of the most amazing thing that happened at Nick's funeral. As the limousine followed the hearse down to the crematorium chapel, the path was unexpectedly lined with all Nick's rigger workmates (as well, I`m told, as a big boss), who all clapped the hearse as it passed them. It's something the family will treasure and will live in our memories forever. (I was also told that this is something that has never happened to anyone before)."

Our condolences go to Lin and her family.

Sir Vaughan Jones KNZM FRS FRSNZ FAA

31 December 1952-6 September 2020



Vaughan Frederick Randall Jones[1] was born in 1952, at Gisborne. He attended Auckland Grammar School from 1966 to 1969, winning many prizes in sciences and in languages, and was very active in sports and music. He then studied mathematics at the University of Auckland, where he gained a Gillies Scholarship, a Fletcher Industries Bursary and a Senior Prize in Pure Mathematics. He graduated MSc (1st Class Honours in Mathematics) in May 1974, and in the same month presented his first research paper at the 1974 Mathematics Colloquium. The Swiss Embassy granted him a scholarship to enable him to study at the École de Mathématiques, Université de Genève, where he graduated in 1979 as Docteur des Sciences.

Vaughan started work for his thesis on the topic on John von Neumann's version of quantum mechanics; but he soon found (as other mathematicians have done) that the special algebras which von Neumann had invented for that purpose, form an interesting branch of mathematics in their own right. Accordingly, he wrote his thesis (in French) on von Neumann algebras. He held a succession of appointments at UCLA and at the University of Pennsylvania from 1979 to 1985, when he moved to the University of California, Berkeley where he stayed until 2011 when he was recruited to Vanderbilt University.

Following his presentation of a new mathematical expression, now known as the Jones Polynomial, he received the Fields Medal at ICM90, in Kyoto in 1990. Some USA newspapers proclaimed that "Two American mathematicians win Fields Medals" which Vaughan countered by delivering his Plenary Address wearing All Blacks kit!

Jones was elected to the American Academy of Arts and Sciences and the National Academy of Sciences. He was a fellow of the Royal Society in both the United Kingdom and New Zealand, and was made a Knight Companion of the New Zealand Order of Merit. In addition, he was active in many professional organisations, serving as vice president of both the American

1 Sadly the Editors were unable to find any members who could give us a more personal appreciation of Sir Vaughan Jones so we have used an extract from an article written for Newsletter No 1 of the Dept of Mathematics and Statistics, University of Auckland by G Tee and published in *KM* 40 (1992) pp 28-29, and a subsequent letter that Sir Vaughan Jones wrote in *KM* 43 (1993) p11, the edition in which he presented his mathematical discovery.

Mathematical Society and the International Mathematics Union.
Vaughan was Patron of the New Zealand Chapter of the IGKT and accepted the post of Honorary Vice President of the IGKT.
In a letter to *KM*, he apologized for his tardiness in getting in touch with the Guild and confessed that "One of the reasons for my slowness has been a certain sense of embarrassment at my inability to tie real knots. I have been slowly working on remedying that deficiency with the help of this excellent journal. Before beginning, let me take this opportunity to ask the members of the Guild a question that is no doubt trivial but has been bothering me for a long time. Is there a simple knot for closing a loop around an object which shortens the loop, thereby tightening its grip on the object, as the knot is tied. I have asked several friends but have not had a good answer[2]."
Sir Vaughan is survived by his wife Martha and their three children.

2 *Did anyone ever answer Vaughan's question?-Editors*

Branch News Roundup

Since the restrictions caused by the Covid-19 pandemic have caused the cancellation of physical contact, a number of branches have made use of the Guild's Zoom accounts to hold virtual meetings. So far, the Dorset (UK) branch has held two meetings, the Midlands (UK) one, and there has also been an Australian branch meeting that became international with both USA and UK joining in. More virtual branch meetings will have taken place by the time this issue of *Knotting Matters* drops through your post box.

Although the initial take-up has been relatively small, with just a handful of members taking part, hopefully the numbers will grow as people get used to the technology and word spreads. One of the main advantages of holding virtual meetings is that it enables members to keep in touch across a wide geographical area without the need to travel. With no early end to the pandemic on the horizon, it may be that the use of Zoom will be our only way of holding meetings for many more months.

Many thanks to the IGKT Executive for allowing the use of the Guild accounts and to David Pepper (UK) and Jim Wolf (USA) for facilitating these meetings.

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New Zealand

All enquries about this branch: contact the Guild's Web Administrator.

United Kingdom

Dorset - UK

Contact: Peter Goldstone
goldstonepg@aol.com
Tel: +44 (0)1725 516 258
Venue: The Ship Inn, Custom House Quay, Weymouth DT4 8BE

East Anglian - UK

Contact: Stuart Weston
pugwash1941@gmail.com
Tel: +44 (0)1449 674 327 or
+44 (0)7801 239 731
Venue: Windmill Room, Abbots Hall Primary School, Danescourt Ave, Stowmarket, Suffolk

Midlands - UK

Contact: Bruce Turley
bruce@btknots.co.uk
Tel: +44 (0)1214 534 124
Venue: The Old Swan Inn,
(Ma Pardoes), 89 Halesowen Road,
Netherton, Dudley, DY2 9PY

North West England - UK

Contact: Ian Rogers
iansrogers@aol.com
Tel: +44 (0)1606 590 729
Venue: Red Lion, 1 Wharton Rd, Winsford, Chester CW7 3AA and Tattenhall Marina, Newton Lane, Tattenhall, Chester CH3 9NE

Solent - UK

http://igkt-solent.co.uk
Contact: Chris Jenkins
igktchris@btinternet.com
Tel: +44 (0)2392 601 779
Venue: Fareham Sailing and Motor Boat Club, Lower Quay, Fareham, Hampshire PO16 0RA

Surrey - UK

www.surreyknots.org.uk
Contact: Tony Shellard
secretary@surreyknots.org.uk
Tel: +44(0)1483 502 156
Venue: Guildford District Scout Centre, Nightingale Road, Guildford, GU1 1ER

West Country Knotters - UK

Contact: Richard Hopkins
richardhopkins907@gmail.com
Tel: +44 (0)1179 867 146
Venue: The Benjamin Perry Boathouse, Phoenix Wharf, Lower Guinea Street, Bristol BS1 6TJ

Yorkshire - UK

Contact: David Pearson
wayzegoose_uk@yahoo.co.uk
Tel: +44 (0)113 257 2689
Venue: Pudsey Scout Headquarters, The Lanes, Pudsey, LS28 7AS

United States of America

Alaskan Branch - USA

Contact: Charles Rigden
charles@rigdencpa.com
Tel: +(1) 1 928 231 2775
Venue: Anchorage Senior Center, 1300 East 19th Avenue, AK 99501

North American Branch - Knot in the Middle - USA

www.igktnab.org
Contact: John Staley
southern.ontario.knotyers@gmail.com
Tel: +(1) 1 905 389 2509

North American Branch - Mid-Atlantic Region - USA

Contact: Michael Pollock
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Pacific Americas - USA

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Tel: +(1) 1 310 679 6864
Venue: Los Angeles Maritime Institute 73 Berth Suite 2, San Pedro, CA 90731

All branch details as on IGKT website on 14/11/20

BACK COVER: Double Constrictor knot in steel Raymond McLaren (see p33)

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